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ORIGINAL ARTICLE

# Patterns of alcohol use and related issues: analysis of nurses' knowledge

PADRÕES DE USO DO ÁLCOOL E QUESTÕES ASSOCIADAS: UMA ANÁLISE DO CONHECIMENTO DE ENFERMEIROS

PATRONES DE CONSUMO DE ALCOHOL Y PROBLEMAS RELACIONADOS: UN ANÁLISIS DEL CONOCIMIENTO ENTRE LOS ENFERMEROS

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## ABSTRACT

Descriptive study that aimed to identify and compare the nurses' knowledge addressed to patterns of alcohol use and related issues. The study included 185 nurses of which 84 had attended a training course on the subject. Data were collected through a questionnaire of knowledge showing that while the trained group obtained the highest average on correct answers, there was a lack of knowledge in both groups, especially with regard to the identification of complications from alcohol use. Important definitions to nursing practice in the area of addictions are presented, suggesting that future training may consider the various dimensions involved in caring for people with problems related to alcohol.

## DESCRIPTORS

Education, nursing  
Alcoholism  
Health knowledge  
Attitudes, practice

## RESUMO

Estudo descritivo que objetivou identificar e comparar o conhecimento de enfermeiros frente aos padrões do uso do álcool e questões associadas. Participaram do estudo 185 enfermeiros, dos quais 84 haviam cursado uma capacitação sobre o tema. Os dados foram coletados por meio de um questionário de conhecimentos evidenciando que, embora o grupo capacitado tenha obtido maiores médias de acertos, observou-se déficit de conhecimento em ambos os grupos, principalmente no que se refere à identificação das complicações decorrentes do uso do álcool. Definições importantes para a prática do enfermeiro na área das adições são apresentadas, sugerindo-se que capacitações futuras possam considerar as várias dimensões envolvidas no cuidado às pessoas com problemas relacionados ao álcool.

## DESCRIPTORES

Educação em enfermagem  
Alcoolismo  
Conhecimentos  
Atitudes e prática em saúde

## RESUMEN

Estudio descriptivo que tuvo como objetivo: identificar y comparar el conocimiento de las enfermeras sobre los patrones de consumo de alcohol y los problemas relacionados. En el estudio participaron 185 enfermeras, 84 de las cuales habían asistido a un curso de formación sobre el tema. Los datos fueron recolectados a través de un cuestionario de conocimientos el cual muestra que, aunque el grupo capacitado haya obtenido mayores aciertos, se observó un déficit de conocimientos en ambos grupos, principalmente en lo referente a la identificación de las complicaciones derivadas del uso de alcohol. Se presentan definiciones importantes para la práctica del enfermero en el área de las adicciones, lo que sugiere que futuras capacitaciones puedan considerar las diversas dimensiones involucradas en la atención a las personas con problemas relacionados con el alcohol.

## DESCRIPTORES

Educación en enfermería  
Alcoholismo  
Conocimientos  
Actitudes y práctica en salud

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## INTRODUCTION

Alcohol consumption is associated with a variety of adverse health and social consequences. The harmful effects of alcohol are well known and there is evidence of its association with many diseases, such as liver cirrhosis, pancreatitis, mental diseases, various cancers and fetal problems. Its use is closely associated with events of social effects, such as deaths and injuries caused by drunk driving, increased aggression, family breakdown and reduced productivity<sup>(1)</sup>.

In Brazil, in 2005, 54% of adults over 15 years old consumed beer and 40% distilled drinks. In 2004, the morbidity related to alcohol use in the population was 7.29% among men and 1.41% among women<sup>(2)</sup>. In addition to this, social and health costs caused by problems related to alcohol use in the country, a total of more than 4 million dollars annually to state coffers<sup>(3)</sup>, besides this, there is a high percentage of people directly or indirectly affected by alcohol use in health services<sup>(4-5)</sup>, which has required prepared health professionals to deal with the problem.

In health services, there has been increasing demand of people with problems related to alcohol use, which is considered one of the major public health problems of the country. However, studies<sup>(6-8)</sup> have evidenced difficulties of the health professionals to recognize, treat, and refer these patients. The main causes for this situation are the lack of training and little knowledge about the topics of alcohol and other psychoactive substances, that has prevented a more effective action of the professionals on the problems related to alcohol and alcoholism<sup>(7-9)</sup>.

International research indicates that after professional training there is a significant increase in the level of knowledge of generalist nurses on the topic of Alcohol and Other Drugs (AOD). Despite the evidence, there are few studies that have been concerned to identify such knowledge around the world and especially in Brazil<sup>(8)</sup>, particularly those who have seen the influence of educational interventions on knowledge regarding the issue<sup>(9)</sup>.

In Brazil, the few studies conducted with the objective of studying this phenomenon showed that these professionals had little knowledge related to the management of patients<sup>(8)</sup> and from every 5 nurses, 4 had not received information on assistance to people with AOD-related disorders during their educational training<sup>(11)</sup>, even though there is evidence that training courses have a positive impact on the knowledge of these professionals<sup>(9-10)</sup>.

Thus, this study aimed to identify and compare the knowledge of a sample of nurses regarding patterns of alcohol use, complications arising from the use, stages of motivation of patients with problems related to alcohol use and psychosocial approaches that can be used in the care of this population.

## METHOD

Comparative-descriptive study aimed to identify and compare the knowledge about AOD between two groups of nurses.

For our study, 280 nurses were invited to participate, 140 were from a university general hospital and 140 from various other health services such as basic health units, general hospitals, urgent and emergency care services and psychosocial care centers and those who had undergone a training course on alcohol and other drugs.

The convenience sample consisted of 185 subjects, of whom five were excluded from the sample because they did not answer in full the data collection instruments. The remaining 180 (64.2%) were allocated into two groups for comparison purposes. Of the total participants, 80 (44.4%) belonged to the group who had participated in a training course in AOD (n=80 Group 1 - training) and 100 (55.6%) were nurses in a general hospital who had not received the referred course (n=100 Group 2 - comparison).

### Research Instruments

To identify the participants' knowledge, a previously elaborated<sup>(13)</sup> and adapted questionnaire was applied to meet the research objectives. A total of 10 alternatives related to cognitive impairment and pharmacological treatment of addiction and its complications were excluded. After adjustments for application in the study population, the final version of the questionnaire was composed of four multiple-choice questions and eight statements to be considered *true* or *false*. Addressing issues relating to: (i) identification of patterns of alcohol use (low risk drinking, harmful use of alcohol and alcohol dependence, (ii) the concept of tolerance, (iii) complications associated with the alcohol use (acute intoxication; syndrome of abstinence, alcoholic hallucinosis, (iv) motivational stages to change psychoactive drug users and (v) principles of brief intervention.

Along with the knowledge questionnaire, a questionnaire was applied consisting of 16 questions which aggregated demographic questions: age, gender, marital status, length of employment, 3 questions related to professional experience with people with alcohol use disorders; 4 questions related to academic training in nursing and 5 questions on the preparation received about chemical addiction during training.

The intervention was a distance learning course, freely offered by the federal government to train health professionals from all over Brazil. The aim was to upgrade health professionals with basic knowledge to care for drug users and covers subjects such as: referring, brief intervention, social rehabilitation and monitoring of users with problems of use and abuse of alcohol and other drugs<sup>(14)</sup>.

## Data Collection

The study was conducted during the period January 2010 to August 2013. Participants in Group 2 were invited to personally participate in the study by three trained interviewers in their workplaces during the three shifts (morning, afternoon, evening). For those who agreed to participate in the study, a 48 hours deadline was established for returning the questionnaire completed. Participants in group 1 received the invitation in email addresses and phone provided upon enrollment in online training course and, having agreed to participate, the instruments of data collection were sent via e-mail, setting up the same deadline for group 2 for return of responses.

## Statistical analysis

For data analysis, we attributed the value 1 (one) for each question answered correctly and 0 (zero) to each question left blank or answered incorrectly. The total score was obtained by adding the grades of 12 questions. Data were analyzed using the *Pro R* software, version 2.15.1 (R). We used descriptive statistical analysis to identify the profile and performance of the participants in the knowledge questionnaire, making use of the measures of central tendency. We used the Pearson correlation analysis to assess the association of variables of interest in the study: gender, marital status, length of employment, work experience with alcoholics, characteristic of the training institution, graduate studies, having received training to work in the field of alcohol addictions and other drugs during training, workload dedicated on the topic AOD received during Nursing undergraduate and clinical experience in AOD with the number of correct answers for each of the groups on the knowledge questionnaire. The Pearson chi-square test was used to compare the proportions of correct answers of participants knowledge questionnaire. In all analyzes, we adopted a significance level of 5%.

## Ethical aspects

The study protocol, as well as the Consent Form, which was signed by all participants, were approved by the Ethics Committee in Human beings of the University Hospital, University of Sao Paulo under protocol number 946/09.

## RESULTS

### Characteristics of the sample

Of the 180 participants, 89% were female, aged 38.7 years (SD= 6.2 years), married (49.4 %) and up to 8 years after graduation (66.7%). With regards to having professional experience with alcoholics, 51% responded affirmatively and of these, 40% reported that cared for people related to alcohol use disorders weekly. With regard to nursing education, more than 60.0% reported being graduated in private

institutions, 82.2% had some type of graduate studies, the majority (90.0%), specialization.

When asked about having received training on addictions in AOD during their undergraduate nursing course 57.8% reported not having received such training. Those who reported having received some preparation in the area, the majority (60.0%) reported having had between 5 and 10 hours of content on this subject during the four years of academic training. With respect to the first clinical contact with people related to alcohol use disorders, the majority of the participants 41.0% reported having had contact only after graduation in nursing, followed by 33.0% who reported having had such contact during the nursing course.

### Knowledge of participants about the aspects addressed in the questionnaire: general analysis

With regard to knowledge covered in the questionnaire generally, it was observed that the ones with greater number of correct answers on the questionnaire knowledge were female nurses, separated, who reported weekly work experience with alcoholics, who were trained in private institutions that received at least 20 hours of theoretical training in the field of alcohol addictions and other drugs and had some clinical experience with these patients during their nursing undergraduate course.

When we analyzed the possible association of the variables of interest in the study with the number of correct answers on the knowledge questionnaire, we found that the only variable that showed significant association with a higher number of correct answers was receiving nursing education in private institution ( $r= 0.42/p=0.05$ ). Analyzing the mean score on the knowledge questionnaire among the participants ( $N=180$ ), it was observed that the overall mean ( $\bar{x}$ ) was 5.6 correct answers (Table 1).

### Comparison of the means of correct answers in knowledge questionnaire between Group 1 and Group 2

When the two groups were compared by their overall means in the knowledge questionnaire, using the Pearson chi-square test, it was observed that nurses in group 1 achieved the highest overall mean ( $\bar{x}= 5.1$ ) than those in group 2 ( $\bar{x}= 4.1$ ). Analyzing the questionnaire correct answers in accordance with the sociodemographic variables of the participants divided into groups, it was observed that nurses in group 1 had on average 1 point higher in correct answers, regardless of the variable compared (Table 1).

Overall, in both groups, those who reported having some work experience with people with alcohol use, who received greater than or equal to 20 hours of theoretical training and had clinical experience with people related to alcohol use disorders during nursing training, had higher mean score on the knowledge questionnaire (Table 1). It was also observed that the female participants in group 2 had higher mean in the questionnaires than the males of the same group, a statistically significant difference ( $p=0.05$ ).

**Table 1** - Distribution of means of getting the knowledge questionnaire in groups 1 and 2 according to sociodemographic, professional and educational variables of the participants - Sao Paulo, 2013

Variable	$\bar{x}$	Group 1			p	Group 2			p*
		n=80	$\bar{x}$	SD		n=100	$\bar{x}$	SD	
		(%)	5.1	1.4		(%)	4.1	1.1	
Gender	Female	70 (87.5)	5	1.5	0.59	90 (90)	4.2	1.1	0.05*
	Male	10 (12.5)	5.3	1.3		10 (10)	3.5	1	
Variable	$\bar{x}$	Group 1			p	Group 2			p*
		n=80	$\bar{x}$	SD		n=100	$\bar{x}$	SD	
		(%)	5.1	1.4		(%)	4.1	1.1	
Marital status	Married	37 (46.3)	5.1	1.2	0.67	52 (52)	3.9	1	0.15
	Other**	3 (3.7)	5.8	1.6		5 (5)	4.8	1.7	
	Separated	4 (5)	4.5	0.8		3 (3)	5.2	1.7	
	Single	36 (45)	5.2	1.5		40 (40)	4.2	1.1	
Professional experience with alcohol addicted	No	37 (46.3)	5	1.3	0.89	52 (52)	3.9	1.1	0.1
	Yes	43 (53.7)	5.4	1.5		48 (48)	4.3	1.1	
Graduate studies	No	20 (25)	5.2	1.6	0.7	12 (12)	4.4	0.9	0.32
	Yes	60 (75)	5	1.4		88 (88)	4.1	1.1	
Characterization of studied institution	Private	54 (67.5)	5.1	1.3	0.82	60 (60)	4	1	0.07
	Public	26 (32.5)	5	1.8		40 (40)	4.2	1.2	
Were trained to work with AA in undergraduate studies	No	43 (53.7)	4.9	1.4	0.59	61 (61)	3.9	1.2	0.14
	Yes	37 (46.3)	5.3	1.5		39 (39)	4.4	0.9	
Workload during undergraduate training about addiction AOD n=35	Up to 10 hours	9 (25.7)	5.6	1.2	0.89	12 (34.4)	4.1	0.96	0.61
	15h	0	0	0		4 (11.4)	5	0.68	
	20h	10 (28.6)	7.7	1.9		4 (11.4)	4.5	0.48	
	30h	0	0	0		4 (11.4)	5.2	1.25	
	Other	16 (45.7)	4.9	1.2		11 (31.4)	4.2	0.95	
Clinical experience in AA	Before undergraduate course	8 (10)	4.7	0.9	0.06	0	0	0	0.35
	After undergraduate course	32 (40)	4.8	1.2		67 (67)	4.3	1	
	During under graduation course	40 (50)	5.3	1.6		33 (33)	4.7	0.9	

(\*) Values with  $p \leq 0.05$  presented association probability significant with mean knowledge. (\*\*)divorced, widow and living with a partner.

### Knowledge regarding the identification of patterns of harmful use of alcohol, complications arising from such use and the concept of tolerance

In questions related to the identification of the pattern of harmful use of alcohol, complications and identification of tolerance, the latter characterized as a state in which the individual needs to increase the amount of alcohol dose to feel the effects of the drug, it was observed that the number of correct answers was low, as the total number of participants who responded correctly to questions regarding these

aspects did not reach 50% in any of the questions addressed such knowledge. These findings suggest that the largest deficit of knowledge was in identifying complications related to the use of alcohol, since only 32 nurses (17%) were able to properly identify the complication presented (alcoholic hallucinosis). However, participants in group 1 demonstrated increased knowledge in this set of questions, when compared to group 2, statistically significant differences ( $p \leq 0.05$ ) with respect to the knowledge related to the identification of the harmful pattern of alcohol use and identifying the tolerance related to substance use (Table 2).

**Table 2** - Distribution of proportions of correct answers between groups 1 and 2 regarding questions 1-4 of the questionnaire of knowledge related to the identification of patterns of alcohol use, complications arising from the use and recognition of tolerance - Sao Paulo, 2013

Question	Correct answer	G1 (n=80)	G2 (n=100)	Total (n=180)	p <sup>a</sup>
1- 50 year-old patient makes use of alcohol since 20 years. Use of distilled drink (whiskey) every day: one dose (50 ml) at lunch and another (50 ml) at dinner. He is married and his wife often gets annoyed with the amount of drink. Over the past five months he has been showing depressive symptoms, such as depression, loss of appetite and insomnia.	Met criteria for harmful use of alcohol.	35 (43.8%)	20 (20%)	55 (30.6%)	0.001
2- Patient with a diagnosis of alcohol dependence, decreased intake for 3 days and present auditory hallucinations (voices of men calling his name). No change in level of consciousness.	The diagnosis is alcoholic hallucinosis.	14 (17.7%)	18 (18%)	17.90%	0.882

Continue...

Continuation...

Question	Correct answer	G1 (n=80)	G2 (n=100)	Total (n=180)	p <sup>a</sup>
3- Patient with diagnosis of alcohol dependence was admitted to the emergency room with signs of severe agitation after using large quantities of alcohol.	It is acute poisoning	53 (66.2%)	47(47%)	55.60%	0.015
4- When a person says he needs more and more alcohol or another drug to “get high” it can demonstrate:	Tolerance	54 (67.5%)	32 (32%)	47.80%	<0.001

(<sup>a</sup>) statistical significant by chi-square test  $p \leq 0,05$ .

### **Knowledge about safe drinking, psychosocial approaches (brief intervention) and stages of motivation for changing people with problems related to alcohol use**

Analyzing the answers to questions related to knowledge about safe drinking, psychosocial approaches (brief intervention) and stages of motivation to change behavior of people related to alcohol use disorders, we found that

for this set of questions, participants from group 1 achieved greater number of correct answers when compared to Group 2, except for question 12, which addresses the knowledge on action to be taken before the identification of alcohol dependence. The observed differences were statistically significant for questions 5, 9, 11 and 12, which relate to safe drinking (questions 5 and 9), stages of change (question 11) and attitudes towards the identification of alcohol dependence (question 12), as shown in Table 3.

**Table 3** - Distribution of correct answers on true or false statements (7 questions) related to safe drinking, psychosocial approaches (brief intervention) and stages of motivation for change of people with alcohol problems - Sao Paulo, 2013

Question	Correct answer	G1 (n=80) Correct(%)	G2 (n=100) Correct(%)	Total (n=180)	p <sup>a</sup>
5- An adult male can drink up to a maximum of 2 doses of whiskey (total of 100 ml) per day.	T	22 (31)	14 (14)	21.10%	0.001
6- Woman can drink less than men because she has proportionally greater amount of body fat, which increases the bioavailability of alcohol.	T	33 (46.5)	43 (43)	44.40%	0.76
7- The Brief Intervention (BI) is a type of non-pharmacological treatment that is effective for mild additions and harmful users.	T	53 (74.6)	64 (64.6)	68.80%	0.22
8- The BI can be applied to consultations of 10 to 15 minutes by physicians, nurses, psychologists and other trained professionals.	T	57 (80.3)	67 (67.7)	72.90%	0.09
9- The goal of safe drinking (socially) should be avoided for patients who do harmful use of alcohol.	T	18 (25.4)	6 (6)	86.00%	0.001
10- For patients who are not motivated for treatment, the doctor should respect his opinion and wait until he feels motivated to start treatment.	F	41 (57.7)	69 (69)	35.70%	0.17
11- Patients in the pre-contemplation stage considers whether to stop drinking or not, but cannot change their behavior towards drinking.	F	34 (47.9)	17 (17)	70.20%	<0.001
12 - Once alcohol dependence is identified, the preliminary orientations should be done and patient should be referred to a specialist.	T	33 (46.5)	99 (99)	77.20%	<0.001

(<sup>a</sup>) significant chi-square test, when  $p \leq 0,05$ .

## **DISCUSSION**

This study aimed to identify and analyze knowledge from a sample of nurses about alcohol and the problems associated with comparing the averages of correct answers on a questionnaire consisting of 12 questions between two groups of nurses, one of whom had undergone a training course on AOD topic. In general, the participants' knowledge on the issues addressed in the questionnaire showed deficit, since the mean of correct answer did not reach 50%. As explanation for this result, one can point out the lack of knowledge about this problem among health workers,

a phenomenon well documented in the literature<sup>(7, 11,15-16)</sup> which prevents the recognition of the problem and a more appropriate approach for these professionals in different health services<sup>(4,17)</sup>.

This result also reflects the little attention being given to the issue of addictions in nursing syllabus<sup>(11-12,18)</sup> which was also evidenced in this study where 60% of participants received no training on this topic during nursing education. Among those who reported receiving some content on the issue, most mentioned were offered between 5 and 10



hours, which is consistent with studies<sup>(11,18)</sup> that has pointed out that AOD contents are not taught during Professional training or are offered in quantities which are not sufficient to ensure proper management of knowledge situations involving the use of AOD<sup>(15,19-20)</sup>.

The nurses in the group that had been subjected to a specific course of training on the AOD topic, showed higher mean score on the knowledge questionnaire, regardless of the variables compared. Still, the differences between the two groups were not significant and, although they have shown better results in the questionnaire, the statistical significant difference was observed only in the knowledge related to safe drinking and stages of readiness to change in individuals with problems related to alcohol use. This finding suggests that the course had an impact on knowledge about these aspects, which was expected, given its objective of updating professionals with basic knowledge for attending users of psychoactive drugs. For the other aspects addressed in the questionnaire, the observed difference between the two groups could be due to chance, suggesting that the course had little impact on knowledge in other aspects covered by the questionnaire, mainly on issues related to the identification of complications of alcohol dependence, as well as the referring decision of people with these problems. It is speculated that this phenomenon is due to the fact that the training courses are prioritizing knowledge related to problem identification, without going deep into this issue, in order to prepare its graduates to face more severe situations related to the use of substances. This is worrisome, given the existing findings in the literature that undergraduation has also not offered this knowledge to future professionals<sup>(11)</sup>.

However, we cannot think only these aspects of the training of professionals, because identification strategies and rapid interventions are extremely important and desirable to confront the problem of AOD use currently, we cannot lose sight that nursing care integrates the network of comprehensive care to the AOD user<sup>(21)</sup>, which implies the need on recognition and approach in the face of complications from alcohol use.

These results point to the need of courses offered to emphasize these aspects of care for AOD, covering different situations and scenarios involving assistance to this population, since with increasing drinking focuses mainly among younger populations<sup>(22)</sup>. Thus, it is increasingly required the recognition of professional and appropriate conduct in the complications arising from the use of alcohol.

Moreover, the results evidenced that most participants in group 1 did not respond correctly the question regarding the referral of people with a suggestive diagnosis of alcohol dependence for specialized treatment. This is alarming, since it is most appropriate approach when identifying those cases in general health services and one of the focal points of the course.

Although 33% of participants interviewed have reported that their first contact with people with alcohol use disorders was during their nurse training in clinical internships, most of them (41%) reported that this only happened after training in nursing. This result may be related to the lack of preparation of nursing educators, or who do not recognize the problem related to alcohol use in the various settings of nursing education, given the prevalence of these users in health services<sup>(3-4)</sup>, or when recognized, they prefer to leave this aspect as secondary, emphasizing the effects of alcohol on health of individuals assisted without properly focus the primary cause of the problem<sup>(23)</sup>. This may contribute to the perpetuation of ignorance and lack of identification of these problems in the job routine.

The results of this study strongly suggest that variables such as workload received during graduation and clinical experience with these patients during nursing training are able to positively influence the knowledge about the issue, since it was observed that regardless of the allocation group, participants who reported having had a minimum of 20 hours of theoretical content on AOD during the course, together with clinical experience, obtained better scores on the knowledge questionnaire. This result is consistent with previous studies<sup>(10,16,18,20,23-25)</sup> which cited this as the most appropriate strategy not only to acquire knowledge for future nurses, but also as promising for more positive attitudes towards these patients. Moreover, the knowledge gained during the training in nursing tends to remain after completion of the course, encouraging more positive attitudes of the professionals towards these people<sup>(18-19,25)</sup>.

### **Limitations and advances**

This study contributes significantly to identifying the knowledge of nurses related to alcohol use and associated situations, given the scarcity of research on this topic. The results, however, must be interpreted in the context of several limitations, including: the group undergoing training course in AOD was not subjected to a pre-test and therefore the results observed cannot be linked to it.

Another limitation is the fact that the knowledge questionnaire was not comprehensive enough to identify other knowledge that were not covered. It is unclear whether the fact that it is a course of multidisciplinary characteristic exerted some influence on the results, so it is desirable that future studies elucidate this question by investigating samples of nurses who have been trained in specific training courses for nursing.

However, this study provides advances for knowledge on the subject to map the situation of a group of nurses in relation to their knowledge of the patterns of alcohol use and the approaches and interventions addressing the problems associated with it. Still, it allows us to identify gaps in knowledge suggesting aspects and strategies to be considered when proposing future training courses in the area for these professionals.

Furthermore, the internal validity of the results is evidenced by similar findings in previous studies that also suggest that internships and practical experiences during training, together with adequate workload in such content, contribute to increase knowledge on these issues.

## CONCLUSION

The nurses' knowledge on the issues addressed in the questionnaire showed deficit; nurses subjected to a training course on alcohol and other drugs tended to have greater knowledge in some aspects, especially those related to patterns of alcohol use, acute intoxication and tolerance, while those without training performed better on questions related to the management and referral of people with symptoms suggestive of alcoholic addiction.

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